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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,466	01/16/2004	Jane Campbell Mazzagatti	TN320	9629

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EXAMINER

DANG, THANH HA T

ART UNIT	PAPER NUMBER
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2163

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/759,466	MAZZAGATTI ET AL.	
	Examiner	Art Unit	
	Thanh-Ha Dang	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) 12, 13 and 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/21/06; 12/6/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11, 14 and 18-21 are rejected in this Office Action.

Election/Restrictions

2. Applicant's election with traverse of Group I set of claims 1-11, 14, and 18-21 in the reply filed on 12/14/06 is acknowledged. The restriction is deemed proper and is therefore made FINAL.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ

619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-11, 14 and 18-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 16 of copending **Application No. 10/958,830**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the different feature would have been obvious.

The Claims 1 and 16 of application #10/958,830 contains elements of claims 1, 3 and 14 of the instant application, and as such anticipates claims 1, 3 and 14 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

4. Claims 1, 3-5, 7, 14 and 18 are objected to because of the following informalities:
- Claim 1: 2nd paragraph has no ending punctuation.
 - Claim 3 recites "OS" that abbreviation usage is not recommended. Preferably, abbreviation is to spell out in full to avoid failing to distinctly claim the subject matter.
 - Claim 4: 2nd paragraph recites " ... store, And," ??; and has no ending punctuation.
 - Claim 5: 2nd and 3rd paragraph have no ending punctuation.
 - Claim 7 has no ending punctuation.
 - Claim 14 has inconsistent ending punctuation among paragraphs.
 - Claim 18 has inconsistent ending punctuation among paragraphs.

Appropriate correction is required. Applicants' cooperation is requested in correcting any errors of which applicants may become aware.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 14 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of

35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Claim 14 recites set of instructions, which is code that is directed to program *per se*, and therefore is non-statutory.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 3-5, 7-8, 10 and 19 are rejected under 35 U.S.C. 112, second paragraph:

- Claim 3, line 7 recites "... OS ... sign structure information if not saved below," as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Further, it is recommended to spell out abbreviation in full.
- Claim 3, line 9 recites "... root nodes' levels ...": as being unclear for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- Claim 3, lines 18-19 recites "sign structure ... data sources ...": as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- Claim 3, lines 22 recites "... streams) – for ...": as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- Claim 3, lines 29 recites "XML-related meta data, if any.": as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- Claim 4 recites "A method ..." that lacks of antecedent basis.

- Claim 5 recites "A method ..." that lacks of antecedent basis.
- Claim 5 recites the limitation "... the case and result pointers ... asResult ..." in paragraph 3 that is insufficient antecedent basis for this limitation in the claim. Claim 6 depends on claim 5 and therefore is also rejected.
- Claim 7 recites "A method ..." that lacks of antecedent basis.
- Claim 7 recites the limitation "... the asCase paths" that lacks antecedent basis for this limitation in the claim.
- Claim 8 recites "A method ..." that lacks of antecedent basis.
- Claim 8 recites the limitation "... endproduct nodes" that lacks antecedent basis for this limitation in the claim. Claim 9 depends on claim 8 and therefore is also rejected.
- Claim 10 recites "A method ..." that lacks of antecedent basis.
- Claim 10 recites the limitation "... root nodes" that lacks antecedent basis for this limitation in the claim. Claim 11 depends on claim 10 and therefore is also rejected.
- Claim 19 recites the limitation "... saving discovers a saved size ..." as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,356,902 issued to Tan et al. ("Tan"), and further in view of US Patent No. 6,505,205 issued to Kothuri et al. ("Kothuri").

As to **Claims 1 and 14**, *Tan teaches* a method of saving an interlocking trees data store from memory to permanent storage comprising the steps of:

- traversing the interlocking trees data store to access each node (*Figures 3-5B, column 2, lines 54-59 wherein breath and depth searches are traversing methods to access each node*) and
- writing the node packet to permanent storage (*Figure 6, column 8, lines 56-65*).

- *Tan does not explicitly teach creating a node packet containing all information relevant to the node. However, Kothuri teaches creating a node packet containing all information relevant to the node (column 17, line 22).*

Thus, it would have been obvious to one of ordinary skill in the art at the time of the present invention to combine method for storing and retrieving of multimedia objects teaching of Tan with relational database system for storing nodes of a hierarchical index teaching of Kothuri in order to provide method and system which provide efficient organization of the data to facilitate rapid retrieval.

As to **Claim 2**, *Tan in combination with Kothuri teaches the method of claim 1 wherein said saving of an interlocking trees data store from memory to permanent storage further comprises the step of saving supporting structures to permanent storage (Tan, Figure 6, column 2, lines 50-52 and column 8, lines 56-65).*

As to **Claim 3**, *Tan in combination with Kothuri teaches the method of claim 2 wherein the step of saving supporting structures comprises saving any of the following list of structures needed to restore the interlocking trees data store to memory, wherein said list includes:*

- KStore name, creation date, version/cycle of Save program that created the save file, OS underlying structure information including at least size of fields used information, sign structure information if not saved below, elemental root

nodes or elemental root node values and pointers to the elemental root nodes' levels and associated delimiters meta data including one or more of the following field types: user defined types, column descriptions, and permissions, kState variables including one or more, of the following: switches, data streams, sign structure information for instance special ordering for asCase lists data sources including one or more of the following: types, locations, affiliated data streams for learning new knowledge security including one or more of the following: administrator passwords, user passwords, permissions, saved query locations, and triggers, and XML-related meta data, if any (*Kothuri, Figure 2, column 9, lines 51-55*).

As to **Claim 4**, *Tan in combination with Kothuri teaches* a method of saving an interlocking trees data store from memory to permanent storage according to claim 2, wherein saving supporting structures comprises the steps of:

- determining which informational structures will be saved with the interlocking trees data store (*Kothuri, column 8, lines 15-25*), And,
- formatting and writing said informational structures to permanent storage (*Kothuri, column 6, lines 55-57*)

As to **Claim 5**, *Tan in combination with Kothuri teaches* a method of saving an interlocking trees data store from memory to permanent storage according to claim 1, wherein creating a node packet containing all information relevant to the node, comprises the steps of:

- storing the node's current load address in the packet (*Tan, column 8, lines 37-65*)
- storing the Case and Result pointers, any other additional fields, the asCase list of pointers and the asResult list of pointers in the packet (*Tan, column 8, lines 37-65*)
- writing the node packet to permanent storage (*Tan, Figure 6, column 5, lines 64-66 wherein each page memory represents permanent storage*).

As to **Claim 6**, *Tan in combination with Kothuri teaches the method of claim 5 wherein prior to storing any packets, memory is allocated for each packet to be stored (Tan, column 2, lines 19-22 and column 6, lines 4-10).*

As to **Claim 7**, *Tan in combination with Kothuri teaches a method of saving an interlocking trees data store from memory to permanent storage according to claim 1, wherein traversing the interlocking trees data store to access each node comprises the steps of: traversing the interlocking trees data store to access each node starting from the primary root, using a typical tree traversal along the asCase paths (Tan, Figure 2A, column 5, lines 1-22)*

As to **Claim 8**, *Tan in combination with Kothuri teaches a method of saving an interlocking trees data store from memory to permanent storage according to claim 1, wherein traversing the interlocking trees data store to access each node comprises the steps of: traversing the interlocking trees data store to access each node beginning from endproduct nodes (Tan, Figure 5B,*

column 7, lines 60-67 and column 8, lines 1-32 wherein depth search traversal access each node beginning from endproduct node).

As to **Claim 9**, *Tan in combination with Kothuri teaches the method of claim 8 wherein said traversing beginning from end product nodes begins after obtaining access to all end product nodes from a file of end product node information associated with said interlocking trees datastore (Tan, Figure 5B, column 7, lines 60-67 and column 8, lines 1-32 wherein depth search traversal access each node beginning from endproduct node).*

As to **Claim 10**, *Tan in combination with Kothuri teaches a method of saving an interlocking trees data store from memory to permanent storage according to claim 1, wherein traversing the interlocking trees data store to access each node comprises the steps of: traversing the interlocking trees data store to access each node from root nodes (Tan, Figure 3, column 2, lines 40-45 wherein breath-first search accesses node from root node).*

As to **Claim 11**, *Tan in combination with Kothuri teaches the method of claim 10 wherein said traversing beginning from said root nodes begins after obtaining access to all root nodes from a file of root node information associated with said interlocking trees datastore (Tan, Figure 3, column 2, lines 40-45 wherein breath-first search accesses node from root node; and column 6, lines 17-22).*

Claim 14 is essentially the same as Claim 1 except that the claim sets forth the claimed invention as set of instructions rather than a method, and therefore is rejected for the same reason as applied to Claim 1.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,356,902 issued to Tan et al. ("Tan").

As to **Claim 18**, *Tan teaches* a computer system having an interlocking trees datastore in a memory of said computer system and having a saving means for saving said interlocking trees datastore for later restoration, said saving means comprising:

- means for locating and saving (*Figures 2A(2.8), 4 (3b.4 and .12)*) all relevant header information including metadata relevant to restoring said interlocking trees data store (*Figures 3-6, column 2, lines 54-59 wherein breath and depth searches are means for locating and saving all relevant header information*),
- means for locating each node in said interlocking trees data store (*Figures 3-6, column 2, lines 54-59 wherein breath and depth searches are means for locating each node*) and

- means for saving all data about each located node in a packet form (*Figure 6, column 5, lines 64-66 wherein each page memory is equivalent to a packet form*).

As to **Claim 19**, *Tan teaches* the computer system of claim 18 wherein said means for saving discovers a saved size for said packet form of said all data about each located node (*column 6, lines 29-34*).

As to **Claim 20**, *Tan teaches* the computer system of claim 19 wherein a total size of a saved interlocking trees datastore saved by said saving means is a function of said saved size for each said packet (*column 6, lines 29-34*).

As to **Claim 21**, *Tan teaches* the computer system of claim 18 wherein said each packet contains pointer data pointing to addresses of other nodes of said interlocking trees data store that had been linked to the node from which said each packet is constructed in said means for saving (*Figure 2B, column 5, lines 51-63*).

Citation of Pertinent Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent 6,144,962 (Weinberg et al.)
- US Patent 6,635,089 (Burkett et al.)
- Pub. No. US2003/0217335 (Chung et al.)
- US Patent 6,711,585 (Copperman et al.)
- US Patent 6,704,729 (Klein et al.)
- US Patent 6,751,622 (Puri et al.)
- US Patent 6,799,184 (Bhatt et al.)

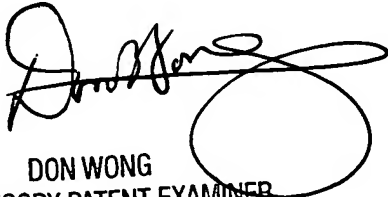
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Ha Dang whose telephone number is 571-272-4033. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thanh-Ha Dang
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